DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BACK LAKE	Lake Area (ha):	145.12
Town: PITTSBURG	Maximum depth (m):	4.6
County: Coos	Mean depth (m):	2.0
River Basin: Connecticut	Volume (m³):	2965500
Latitude: 45°04'49" N	Relative depth:	0.3
Longitude: 71°21'07" W	Shore configuration:	1.41
Elevation (ft): 1575	Areal water load (m/yr)	: 1.18
Shore length (m): 6000	Flushing rate (yr^{-1}) :	0.60
Watershed area (ha): 310.8	P retention coeff.:	0.88
<pre>% watershed ponded: 0.0</pre>	Lake type: natura	ıl w/dam

BIOLOGICAL:	5 February 1997	6 August 1996
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 65%	DINOBRYON 32%
#2	SYNURA 25%	ANACYSTIS 32%
#3		TABELLARIA 12%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		3.11
DOM. ZOOPLANKTON (% TOTAL) #1	NAUPLIUS LARVA 35%	ACANTHOCYSTIS 49%
#2	KELLICOTTIA 29%	ACTINOPHRYS 17%
#3	POLYARTHRA 15%	POLYARTHRA 15%
ROTIFERS/LITER	26	42
MICROCRUSTACEA/LITER	21	26
ZOOPLANKTON ABUNDANCE (#/L)	48	213
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		2.5
BOTTOM DISSOLVED OXYGEN (mg/L)	7.4	9.5
BACTERIA (E. coli, #/100 ml) #1		
#2		
#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None Hypolimnion volume (m³): None Anoxic volume (m³): None

CHEMICAL:			BACK LAKE PITTSBURG		
	5 February 1997		6 August 1996		
DEPTH (m)	1.5	3.0	1.0		3.0
pH (units)	6.7	6.5	7.2		7.2
A.N.C. (Alkalinity)	17.2	16.6	13.4		13.4
NITRATE NITROGEN	0.08	0.07	0.05		0.05
TOTAL KJELDAHL NITROGEN	0.23	0.35	0.59		0.38
TOTAL PHOSPHORUS	0.007	0.006	0.009		0.011
CONDUCTIVITY (µmhos/cm)	74.5	71.4	61.3		61.5
APPARENT COLOR (cpu)	6	8	42		45
MAGNESIUM			1.20		
CALCIUM			5.1		
SODIUM			4.9		
POTASSIUM			0.34		
CHLORIDE	9	8	7		7
SULFATE	3	3	3		2
TN : TP	44	70	71		39
CALCITE SATURATION INDEX			2.3		

All results in mg/L unless indicated otherwise

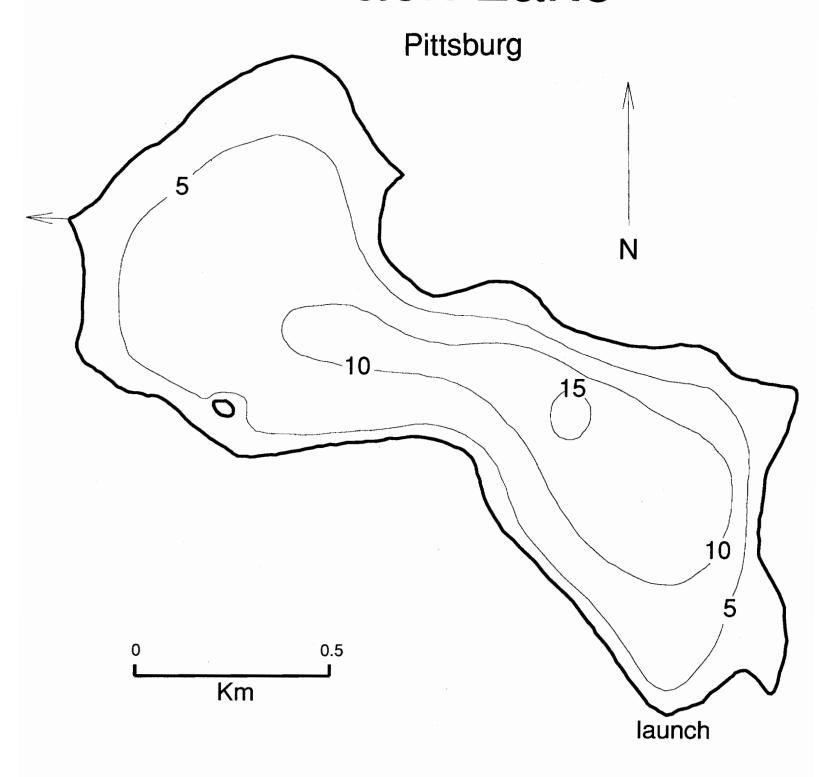
TROPHIC CLASSIFICATION: 1996

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	3	0	6	Meso.

- COMMENTS:

 1. Back Lake was previously surveyed and classified in 1979 and 1985. There was no change in trophic classification over the 17 year period. The limited data suggest a trend of increasing phosphorus and decreasing water clarity, but no trend in chlorophyll. More frequently collected data is needed to confirm the trends.
 - Anacystis, a blue-green alga, was one of the dominant net phytoplankton during 2. the summer. Blue-green are generally not desirable.
 - 3. A motorboat speed limit exists for the pond.

Back Lake



FIELD DATA SHEET

LAKE: BACK LAKE

DATE: 08/06/96

TOWN: PITTSBURG
WEATHER: SUNNY, CALM, HOT

DEPTH	TEMP	*DISSOLVED	OXYGEN
(M)	(°C)	OXYGEN	SATURATION
0.1	25.5	9.5	114 %
1.0	24.5	9.7	114 %
2.0	24.0	9.6	113 %
3.0	21.0	9.6	106 %
3.5	20.5	9.5	103 %

SECCHI DISK (m): 2.5

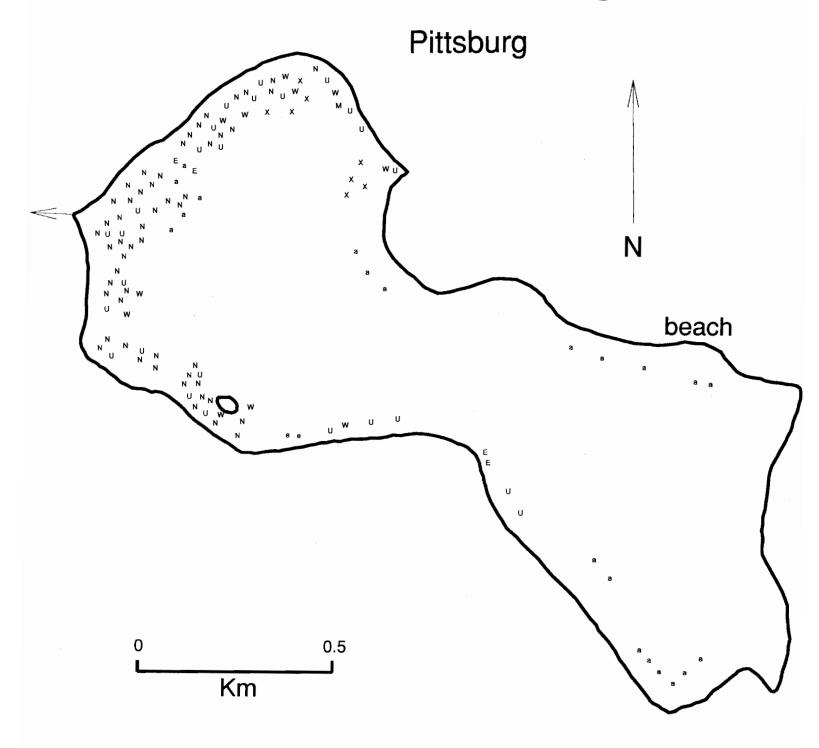
COMMENTS:

BOTTOM DEPTH (m): 3.8

TIME: 1500

*Dissolved oxygen values are in mg/L

Back Lake



AQUATIC PLANT SURVEY

LAK	E: BACK LAKE	TOWN: PITTSBURG	DATE: 08/06/96	
Kow	PLANT	ADUNDANCE		
Key	GENERIC	COMMON	ABUNDANCE	
G	Gramineae	Grass family	Sparse	
Т	Typha	Cattail	Sparse	
U	Utricularia	Bladderwort	Scattered	
W	Potamogeton pusillus	Pondweed	Scattered	
M	Myriophyllum humile	Water milfoil	Sparse	
N	Nymphaea	White water lily	Common	
a	Potamogeton amplifolius	Bass weed	Common	
E	Eriocaulon septangulare	Pipewort	Sparse	
е	Eleocharis	Spike rush	Sparse	
Х		Sterile thread-like leaf	Scattered	

GENERAL OBSERVATIONS:

1. Plants were abundant along the western outlet shoreline and scattered along the eastern end, for an overall rating of common.

OVERALL ABUNDANCE: Common

2. The bass weed was observed in deeper water away from the shore. It may be more common than indicated because limited water visibility interfered with its observation.